



April 1, 2005

Marlene H. Dortch
Secretary,
Federal Communications Commission
445 12th Street SW
Washington, D. C., 20054

RE: WC Docket No. 02-60

Dear Secretary Dortch:

The Office of Telemedicine of the University of Virginia Medical Center respectfully submits the following comments to the above captioned proceeding. We are grateful to the Commission for its efforts to expand the Rural Health Care Support Mechanism.

Sincerely,

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University of Virginia Health System

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

In the Matter of:

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Notice of Proposed Rulemaking (NPRM))WC Docket No. 02-60
Regarding the Universal Service Support Mechanism)
for Rural Healthcare.

**Comments of the Office of Telemedicine
of the University of Virginia Medical Center**

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In the Matter of:

Notice of Proposed Rulemaking (NPRM) Regarding the Universal Service Support Mechanism for Rural Healthcare.))WC Docket No. 02-60)
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**Comments of the Office of Telemedicine
of the University of Virginia Medical Center**

The Office of Telemedicine of the University of Virginia Medical Center (UVa) submits the following comments in response to the Commission's Notice of Proposed Rulemaking (NPRM) in the above captioned proceeding.

The Commission seeks comment on “whether we should increase the percentage discount that rural health care providers receive for Internet access.” The Commission also “seeks comment on whether to modify our rules specifically to allow mobile rural health care providers to use services other than satellite.”

UVa suggests that the Commission increase the level of discounts provided to rural health care providers for Internet or information services. For the reasons articulated in the document herein, we propose that such discounts be calculated not on a simple percentage basis, but rather by the same process through which discounts are

calculated for telecommunications services according to the rules of the Rural Health Care Support Mechanism (“the Program”).

We also agree that the Commission should modify its rules to allow mobile rural healthcare providers to use additional wireless services for purposes of this program.

In follow up to and in support of the Petition for Reconsideration filed by the American Telemedicine regarding the Commission’s recent Report and Order redefining rural for purposes of the Program, UVa urges the Commission to consider permanent grandfathering of those sites previously eligible for Rural Health Care Support that no longer qualify based on the 2000 census, or at a minimum, to permanently grandfather sites funded with federal grant dollars.

In the Telecommunications Act of 1996 (“the Act”), Congress anticipated the continued modernization of telecommunications technologies and authorized the FCC to revisit the services covered under the provisions of the Universal Service Fund.¹

“Universal service is an evolving level of telecommunications services that the Commission shall establish periodically under this section taking into account advances in telecommunications and information technologies and services.”

The federal government has invested billions of dollars in telehealth infrastructure and research, and yet, paradoxically, the sustainability of these telehealth programs is at issue because of statutory and regulatory barriers to the fullest implementation of advanced technologies applied to healthcare. Thus, UVa applauds the Commission's recent 2003 and 2004 Report and Order (02-60) and this latest NPRM

¹ 47 U.S.C. §254(C)(1)

regarding the Rural Healthcare Support Mechanism (“the Program”) designed to increase utilization of advanced broadband communications services in rural America.²

Based on guiding principles of the Act, the recent Presidential Executive Order calling for widespread deployment of health information technology within ten years, and in support of the goals of the Institute of Medicine as outlined in the recent publication Quality Through Collaboration, The Future of Rural Health, with the following comments, UVa argues for Rural Healthcare Support funding of comparable “communications services” (telecommunications and information services).^{3,4,5}

A. Background of respondent

The Office of Telemedicine of the University of Virginia Medical Center serves as the hub of a 57 site telemedicine network serving citizens residing in rural regions of the Commonwealth of Virginia. Through this network, UVa provides clinical consultative services, health professional education and patient education with the goal of enhancing access to quality care not locally available in rural communities. To date we have facilitated more than 7000 clinical encounters between remotely located patients (many of whom reside in medically underserved Appalachian communities) and our specialist physicians. We have also facilitated more than 20,000 teleradiology services and have broadcast thousands of hours of educational programs.

² 47 CFR Part 54

³ Executive order: Incentives for the Use of Health Information Technology and Establishing the Position of the National Health Information Technology Coordinator, April 27, 2004.

⁴ Quality Through Collaboration, The Future of Rural Health, Institute of Medicine, National Academies Press, 2004

⁵ SB1335, Virginia General Assembly

Since the inception of our program, our telehealth network has been deployed with a host of communications services including a statewide ATM network, T1, ISDN, DSL, frame relay, wireless, satellite and cable modem technologies with equipment that supports various video protocols such as H.320, H.323, and H.324. We have chosen to procure equipment that is both scaleable and open architecture so as to give us flexibility as to the mode of transport and connectivity within our own and to other networks. Such protocols and connectivity are entirely transparent to the end user.

B. Guiding principles

The societal integration of advanced technologies into everyday venues has profound implications for the development, support and delivery of a new paradigm of healthcare services in the digital era. The powerful tools of telemedicine and health information technologies are critical to the transition from a culture in which health related services are primarily delivered in a balkanized model on an episodic basis to an integrated systems approach focused on disease prevention, enhanced wellness, chronic disease management, decision support, quality and patient safety. Through the incorporation of such tools and technologies, clinicians will be able to satisfactorily manage the exponentially expanding volumes of medical information, research and decision support analytic tools.

The aging of our population has already created increased demand for specialty healthcare services to address both acute and chronic disease in the elderly. Such a demand, in the face of anticipated provider shortages, requires a fundamental shift from the model of physician centered care to one focused on patient centered care using

interdisciplinary teams, evidence based medicine, the use of informatics in decision support and telehealth technologies where specialty care services are either not locally available or for other consultative needs.^{4,6, 7}

Access to local specialty care remains inadequate for many Americans, attributable to a host of factors which range from geographic to economic to societally imposed barriers. It is widely accepted that our nation faces a shortage of physician providers, ranging from 85,000 to 200,000 physicians by 2020.^{6,7} Lack of access in rural areas is exacerbated by the limited numbers of specialists who practice in rural communities and the limited resources generally available in those communities.

Although rural communities face the same basic challenges in access, quality and cost as their urban counterparts, they do so at far greater rates, attributable to a host of factors. “Core health care services” as defined by the Institute of Medicine as primary care, emergency medical services, long term care, mental health and substance abuse services, oral health and other services are considerably less accessible in rural communities.⁴

The incorporation of telehealth technologies into integrated systems of healthcare offers tools with great potential to address the challenges of access, specialty shortages, and changing patient needs both in the rural and urban setting. However, the development of such integrated systems of healthcare requires a fully deployed broadband infrastructure throughout rural America. The vision of Congress to speed the

⁶ Cooper, RA, Weighing the evidence for expanding physician supply, *Ann Intern Med* 2004; 141:705-714

⁷ Blumenthal D. New steam from an old cauldron: the physician supply debate, *N Engl J Med*: 2004;350:1780-1787.

deployment of affordable broadband services, as mandated in the Act, through the Rural Healthcare Support Mechanism has still not yet been realized.

C. Executive Order

On April 27, 2004, President Bush, through an Executive Order, established within the Office of the Secretary of Health and Human Services, the position of National Health Information Technology Coordinator, whose responsibilities are clearly outlined in that Order.³

“Sec. 2. Policy. In fulfilling its responsibilities, the work of the National Coordinator shall be consistent with a vision of developing a nationwide interoperable health information technology infrastructure that:

(a) Ensures that appropriate information to guide medical decisions is available at the time and place of care;

(b) Improves health care quality, reduces medical errors, and advances the delivery of appropriate, evidence-based medical care;

(c) Reduces health care costs resulting from inefficiency, medical errors, inappropriate care, and incomplete information;

(d) Promotes a more effective marketplace, greater competition, and increased choice through the wider availability of accurate information on health care costs, quality, and outcomes;

(e) Improves the coordination of care and information among hospitals, laboratories, physician offices, and other ambulatory care providers through an effective infrastructure for the secure and authorized exchange of health care information; and

(f) Ensures that patients' individually identifiable health information is secure and protected.”³

These goals cannot be accomplished without an affordable and robust broadband communications infrastructure deployed to all regions of our nation. In this rulemaking, it is incumbent upon the Federal Communications Commission to seize this opportunity to fully realize the vision of Congress in the Telecommunications Act of 1996, the Executive Order of the President, and the vision of the Institute of Medicine.

D. Statutory guidance from the Act:

In the Act, Congress elucidated specific principles which serve as the basis for policy decisions regarding universal service, including:

- Section 254 (b) (2) “*Access to advanced services – Access to advanced telecommunications and information services should be provided in all regions of the Nation.*”
- Although Section 254 (b) (6) references eligibility to advanced *telecommunications services* for purposes of schools, healthcare and libraries,
- Section 254 (b) (7) authorizes the Commission to base policies on “*Such other principles as the Joint Board and the Commission determine are necessary and*

*appropriate for the protection of the public interest, convenience, and necessity and are consistent with this Act.”*⁸

Other links between universal service, the public interest and healthcare are addressed in the Act.

- Section 254 (c) (i) (A) links universal service “*with the public health and public safety.*”⁹

The Commission is authorized in the Act to reassess the Rural Healthcare Support Mechanism based on advances in technologies and services under Section 254 (c) (i) which states “*Universal service is an evolving level of telecommunications services that the Commission shall establish periodically under this section taking into account advances in telecommunications and information technologies and services.*”⁹

Through the report of the initial 1997 Advisory Committee on Telecommunications and Health Care, a description of eligible advanced communication services for purposes of the Rural Healthcare Support Mechanism was established. In recent years, however, significant advancements in technology and telecommunications carrier architecture has resulted in a need to modernize the eligible services and discounts associated with the Program.

We maintain that broadband facilitated access to healthcare services as provided though telehealth and other health information technologies falls within the context of the public interest, public health and public safety. We also believe that access to core health services such as may be facilitated by emergency responders connected to health

⁸ 47 U.S.C. §254(b)(1-7)

⁹ 47 U.S.C. §254(c)(1)(A)

providers via any form of wireless technology also falls within the context of public safety.

Thus, we argue that based on the guiding principles elucidated above, the Commission has the statutory authority to expand universal service coverage for purposes of the rural healthcare support mechanism to:

- a. include comparable levels of discounts for information services and,
- b. allow mobile rural health care providers to secure discounts for wireless services other than satellite.

E. Advances in Technologies

At the writing the Act, the majority of carrier architectures were designed as circuit switched environments. Under this original architecture, carriers would commonly provision physical circuits between sites existing in their wire center or provide distance based circuits connected through a long distance carrier. Many times these circuits were leased and fully controlled by the entity ordering the services. Other circuit switched architectures included station services connected to the public switched telephone network which could be used for voice, data, or a combination of both.

Under this circuit switched and leased point-to-point architecture, any information services would have to be added by a separate entity, and were not provided by the carrier. An example of this design was referenced in the advisory committee's findings in which a dial-up internet service required a long distance call. Under this scenario, and with current Rural Healthcare Program regulations, the long distance toll

costs qualify to be discounted as a telecommunications service, however the information service provided by an ISP is only partially eligible (25%) for discounts.

The advancement of modern frame or packet switched services has led to an increased merging of traditional carrier loop services and information services traffic. Modern telecommunications architectures include a packet switched core over the underlying circuit switched physical structure (such as ATM or SMDS on a SONET architecture), in which information services traffic can be inherently introduced by either the carrier or any other entity connected to the backbone by a traditional local loop. This packet switched environment has reduced both carrier costs and increased available services in many areas. It has also reduced the need to provide leased “long haul” services outside of the local wire center. In these modern networks, frame or packet based “core services” allow a carrier to connect many local wire centers and through oversubscription to provide similar bandwidths as leased services, while reducing the need for building additional physical circuitry until utilization rates require expanding the core backbone.

Through this core infrastructure, information services can be inherently provided across the local loop “leased” circuits connected to the backbone. These backbones use logical addressing (ex. ATM and IP over ATM) to provide point-to-point services instead of physically switching circuits dedicated to the ordering entity. Commonly, these modern communications backbones include logical connections to other carrier’s peered network backbones.

Because the backbone already incorporates associations through other carrier peered networks, these Internet (information) services are no longer listed separately on the statements issued by the carriers, nor are they readily available to be chosen using a separate ISP. The telecommunications carrier inherently then becomes an ISP. The modern broadband telecommunications providers are delivering information services with Internet access through their range of available services, to include DSL, Cable Modem, Wireless, and traditional T1/DS1 or faster wire-line services.

The full spectrum of clinical telehealth and distance learning services are applicable to the various models of connectivity described above, and are transparent to the end-user. Thus we believe all such services should be discounted by the same formula.

The addition of mobile and wireless broadband architectures continues to increase the availability of services to additional rural and metropolitan areas. A variety of wireless based telecommunications and information services have emerged and become functionally mature. Some of the services that have become available are broadband micro-cells using MMDS, unlicensed spectrum (such as 2.4ghz/5.8ghz for 802.11a/b/g), or other licensed spectrum. Enhancements to the existing cellular platform using CDMA, EVDO, or other cellular technologies are also emerging. These technologies provide broadband data rates at or nearing T1/DS1 and, similar to their wire-line counterparts, typically provide Internet information services inherently through the broadband offering.

Clinical applications of such mobile wireless technologies include ambulances and other first responders connected to hospitals for triage and emergency support. Such services are vital not only to contemporary healthcare needs but also to our homeland security.

This shift in modern architectures to include information services along with the delivery of circuit services requires that the Commission re-evaluate the eligibility of modern broadband services which provide Internet access in a similar fashion as traditional circuit switched broadband services without carrier based information services. We believe these architectures that include information services, and mobile wireless services should be discounted comparably under the framework of the Rural Healthcare Support Mechanism.

F. Comments re the definition of rural:

We are very grateful to the Commission for its recent significant expansion of the definition of rural for purposes of the Rural Healthcare Support Mechanism.¹⁰ With our support, the American Telemedicine Association submitted a petition for reconsideration of the order re-defining rural for purposes of the Program in the hopes of permanently grandfathering previously eligible sites. We, like others, have identified some unexpected consequences of the new rule, including the ineligibility in 2008 of small communities such as Tazewell, Virginia, now located in the Bluefield, Va-Bluefield WVa core based statistical area. The small community hospital in the Appalachian town of Tazewell, Va

¹⁰ FCC Second Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking Federal Register: February 7, 2005 Volume 70, Number 24

(population 4100 persons) serves much of mountainous Tazewell county and is located approximately 20 miles from the nearest hospital in Bluefield, WV. This telehealth facilitated hospital will become ineligible for discounts once the 3 year period of grandfathering of previously eligible sites expires. No new competition for broadband services has emerged in the region, and the cost of sustaining the connectivity will nearly triple, making the telehealth program unaffordable for the hospital in Tazewell.

We propose the Commission consider permanent grandfathering of previously funded telemedicine sites since good faith clinical decisions and investments in telehealth were made based on sustainability calculations which included rural healthcare discounts. At a minimum, we recommend permanent grandfathering of previously eligible sites funded by federal grants. There is precedent for such action in the Medicaid and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA 2000) wherein Congress authorized permanent grandfathering of HRSA funded federal telehealth grantee sites as eligible consult origination sites for purposes of Medicare reimbursement regardless of evolving rurality status.¹¹

G. Conclusion:

We commend the FCC for its recent modifications of the Rural Healthcare Support Mechanism. We are hopeful that the Commission will consider further modifications that will:

¹¹ 42 U.S.C. §1305 (HR 5661) Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000

1. Allow the application of discounts for all communications (telecommunications and information) services utilized in the Program equitably and comparatively based on bandwidth in accordance with the 2003 Report and Order.
2. Discount mobile wireless services for purposes of healthcare to the level of comparable terrestrial services.
3. Permanently grandfather as eligible for discounts all telehealth sites previously funded under the Program, or
4. Permanently grandfather as eligible for discounts all federally funded telehealth sites previously funded under the Program.

With the changes outlined above, with this rulemaking, the Commission has the opportunity to more fully implement the vision of the Congress and the Presidential Executive Order of 2004 to improve access to healthcare for all Americans, and to facilitate the nationwide implementation of interoperable health information technologies to reduce medical errors, improve quality, and produce greater value for our health care expenditures.

Respectfully submitted,

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